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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

XIAO, KE

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,464	<b>Applicant(s)</b> JACOBSON ET AL.	
	<b>Examiner</b> Ke Xiao	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 52,56-58 and 61-73 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 52,56-58 and 61-64 is/are allowed.
- 6) ☒ Claim(s) 65-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 65** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US 5,872,552) in view of Evans (US 3612758).

Regarding **Claim 65**, Gordon teaches a colored electrophoretic display comprising:

a display element having a viewing surface and a rear surface on opposed sides of the display element, the display element comprising a plurality of first species of electrophoretic particles having a first color (Gordon, Figs. 1 and 5);

a colored surface disposed adjacent to the rear surface of the display element, the colored surface having a third color different from the first color (Gordon, Fig. 3 Col. 1 lines 25-48).

the display element having a first state in which the plurality of first species of particles lie adjacent to the viewing surface and the first color is displayed, a third state in which the colored surface is visible through the viewing surface and the third color is displayed (Gordon, Figs. 1 and 5).

Gordon fails to teach a second species of electrophoretic particles and a second state as claimed. Evans teaches a display element that has a plurality of a second species of electrophoretic particles with a second color that is different from the first color and, where the first and second colors are different from each other (Evans, Figs. 2b and 2c positive and negatively charge particles are blue and yellow respectively), Evans also teaches a second state in which the plurality of second species of particles lie adjacent to the viewing surface and the second color is displayed (Evans, Figs. 2b and 2c). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the second colored particle as well as the second state as taught by Evans to the display cells of Gordon in order to achieve better color reproduction.

Regarding **Claim 66**, Gordon in view of Evans further teaches that the first, second and third colors is white and the other two colors are complementary colors (Gordon, Col. 2 line 40 to Col. 3 line 15, Evans, Fig. 2 positive and negatively charge particles are blue and yellow respectively but can be any complementary color pair).

Regarding **Claim 67**, Gordon in view of Evans further teaches that one of the first, second and third colors is white and the other two colors are red and cyan (Gordon, Col. 2 line 40 to Col. 3 line 15).

Regarding **Claim 68**, Gordon in view of Evans further teaches that one of the first, second and third colors is white and the other two colors are green and magenta (Gordon, Col. 2 line 40 to Col. 3 line 15).

Regarding **Claim 69**, Gordon in view of Evans further teaches that one of the first, second and third colors is white and the other two colors are blue and yellow (Gordon, Col. 2 line 40 to Col. 3 line 15).

Regarding **Claim 70**, Gordon in view of Evans further teaches that the first and second species of particles bear charges of opposite polarity (Evans, Fig. 2).

Regarding **Claim 71**, Gordon further teaches having a first electrode adjacent the viewing surface of the display element and second and third electrodes adjacent the rear surface of the display element, the second and third electrodes occupying less than all of the rear surface of the display element (Gordon, Fig. 5 elements 44 first, 42 second and 40 third where each of second and third occupy a fraction of the back surface of the display element).

Regarding **Claim 72**, Gordon in view of Evans further teaches:

a second display element having a viewing surface and a rear surface on opposed sides of the second display element, the second display element comprising a plurality of a third species of electrophoretic particles having a fourth color and a plurality of a fourth species of electrophoretic particles having a fifth color different from the fourth color; and

a second color surface disposed adjacent the rear surface of the second display element, the second colored surface having a sixth color different from the fourth and fifth colors, at least one of the fourth, fifth and sixth colors being different from all of the first, second and third colors,

the second display element having a first state in which the plurality of the third species of particles lie adjacent to the viewing surface and the fourth color is displayed, a second state in which the fourth species of particles lie adjacent the viewing surface and the fifth color is displayed, and a third state in which the second colored surface is visible through the viewing surface and sixth color is displayed (This is just another colored pixel that has a white/black back plane [same as the first pixel] and the particles are red and cyan).

Regarding **Claim 73**, Gordon in view of Evans further teaches:

a third display element having a viewing surface and a rear surface on opposed sides of the third display element, the second display element comprising a plurality of a fifth species of electrophoretic particles having a seventh color and a plurality of a sixth species of electrophoretic particles having an eighth color different from the seventh color; and

a third color surface disposed adjacent the rear surface of the second display element, the third colored surface having a ninth color different from the seventh and eighth colors, at least one of the seventh, eighth and ninth colors being different from all of the first, second, third, fourth, fifth and sixth colors,

the third display element having a first state in which the plurality of the third species of particles lie adjacent to the viewing surface and the fourth color is displayed, a second state in which the fourth species of particles lie adjacent the viewing surface and the fifth color is displayed, and a third state in which the second colored surface is

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visible through the viewing surface and sixth color is displayed (This is just another colored pixel that has a white/black back plane [same as the first pixel] and the particles are green and magenta).

All three display elements combined together make a full pixel that can display the entire color spectrum white, red, green, blue, white, cyan, yellow, magenta.

***Allowable Subject Matter***

**Claims 52, 56-58 and 61-64** are allowed.

Regarding **Claims 52 and 61**, prior art fails to teach a color electrophoretic display with a single display element that has two electrodes where the two electrodes are a first and second color and wherein the second color is also the color of the particles as claimed.

Claims 56-58 depend either directly or indirectly from allowable claim 52.

Claims 62-64 depend either directly or indirectly from allowable claim 61.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571)272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629

/Ke Xiao/

Examiner, Art Unit 2629